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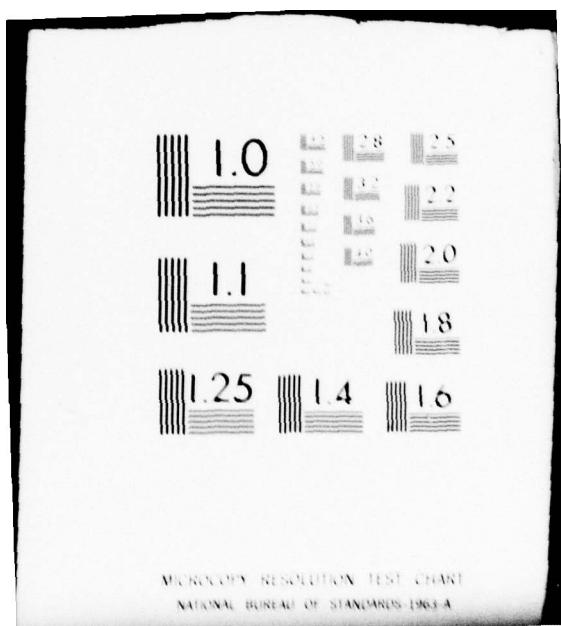
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20. ABSTRACT → This is the Soviet Laser Bibliography for May-June 1978 and is no. 35 in a continuing series on Soviet laser developments. The coverage includes basic research on solid state, liquid, gas, and chemical lasers; components; nonlinear optics; spectroscopy of laser materials; ultrashort pulse generation; theoretical aspects of advanced lasers; and general laser theory. Laser applications are listed under communications; beam propagation; computer technology; holography; laser-induced chemical reactions; measurement of laser parameters; laser measurement applications; laser-excited optical effects; beam-target interaction; and plasma generation and diagnostics.		

Introduction

This bibliography has been compiled under an interagency agreement as a continuing effort to document current Soviet-bloc developments in the quantum electronics field. The period covered is May-June 1978, and includes all significant laser-related articles received by us in that interval. The bulk of the entries come from the approximately 30 periodicals which are known to publish the most significant findings in Soviet laser technology. Citations from the Russian Reference Journals are included, as well as entries from the CIRC data base not otherwise covered. Laser items from the popular or semipopular press are generally omitted.

For convenience we have abbreviated frequently cited source names; a source abbreviations list and an author index are included. All sources cited with no parenthetical notation are available at the Library of Congress. A parenthetical entry (RZh, KL) indicates the secondary source in which the citation was found as a bibliographic entry or abstract, but for which the original source is not currently available at the Library. The authors' affiliations are indicated by the numbers in parentheses following the authors' names in the text and are listed in the Author Affiliations List. New affiliations are assigned a new number and are added to a cumulative list which includes all affiliations from 1969 to the present. Only those affiliations which appear in this issue are listed in this issue's Author Affiliations List.

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I. BASIC RESEARCH

A. SOLID STATE LASERS

1. Crystal: Rare-Earth Activated

a. Nd³⁺

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IV. SOURCE ABBREVIATIONS

(CIRC Codens)

BAPS	(BAPTA)	Bulletin de l'Academie Polonaise des Sciences. Serie des Sciences Techniques
BAPS Chim	(BAPCA)	Bulletin de l'Academie Polonaise des Sciences. Serie des Sciences Chimiques
BWAT	(BWATA)	Biuletyn Wojskowej akademii technicznej J. Dabrowskiego
DAN Arm	(DANAA)	Akademiya nauk Armyanskoy SSR. Doklady
DAN SSSR	(DANKA)	Akademiya nauk SSSR. Doklady
DAN Ukr	(DUKAB)	Akademiya nauk Ukrayins'koyi RSR. Dopovid. Seriya A. Fizyko-matematichni ta tekhnichni nauky
DAN Uz	(DANUA)	Akademiya nauk Uzbekskoy SSR. Doklady
EOM	(EOBMA)	Elektronnaya obrabotka materialov
FAI0	(IFAOA)	Akademiya nauk SSSR. Izvestiya. Fizika atmosfery i okeana
FDIR	(FDRSB)	Fizyka dielektrykow i radiospektroskopia. Prace komisji matematyczno-przyrodniczej Poznanskie towarzystwo przyjaciol nauk
FiKhOM	(FKOMA)	Fizika i khimiya obrabotka materialov
FGIV	(FGVZA)	Fizika gorenija i vzryva
FTP	(FTPPA)	Fizika i tekhnika poluprovodnikov
FTT	(FTVTA)	Fizika tverdogo tela
IAN Az	(IAFMA)	Akademiya nauk Azerbaydzhanskoy SSR. Izvestiya. Seriya fiziko-tehnicheskikh i matematicheskikh nauk
IAN Fiz	(IANFA)	Akademiya nauk SSSR. Izvestiya. Seriya fizicheskaya
IAN Kaz	(IAKFB)	Akademiya nauk Kazakhskoy SSR. Izvestiya. Seriya fiziko-matematicheskaya
IT	(IZTEA)	Izmeritel'naya tekhnika
IVUZ Fiz	(IVUFA)	Izvestiya vysshikh uchebnykh zavedeniy. Fizika
IVUZ Priboro	(IVUBA)	Izvestiya vysshikh uchebnykh zavedeniy. Priborostroyeniye
IVUZ Radioelektr	(IVUZB)	Izvestiya vysshikh uchebnykh zavedeniy. Radioelektronika

IVUZ Radiofiz (IVYRA)	Izvestiya vysshikh uchebnykh zavedeniy. Radiofizika
KE (KVEKA)	Kvantovaya elektronika
KhVE (KHVKA)	Khimiya vysokikh energiy
KL (KNLTA)	Knizhnaya letopis'
KLDV (KLDVA)	Knizhnaya letopis'. Dopolnitel'nyy vypusk
KSpF (KRSFA)	Kratkiye soobshcheniya po fizike
MZhIG (IMZGA)	Akademiya nauk SSSR. Izvestiya. Mekhanika zhidkosti i gaza
OIS (OPSPA)	Optika i spektroskopiya
OMP (OPMPA)	Optiko-mekhanicheskaya promyshlennost'
Otkr izobr (OIPOB)	Otkrytiya, izobreteniya, promyshlennyye obraztsy, tovarnyye znaki
PTE (PRTEA)	Pribory i tekhnika eksperimenta
RIE (RAELA)	Radiotekhnika i elektronika
RZhF (RZFZA)	Referativnyy zhurnal. Fizika
RZhGeofiz (RZGFA)	Referativnyy zhurnal. Geofizika
RZhMekh (RZMKA)	Referativnyy zhurnal. Mekhanika
RZhMetrolog (RZMIB)	Referativnyy zhurnal. Metrologiya i izmeritel'naya tekhnika
RZhRadiot (RZRAB)	Referativnyy zhurnal. Radiotekhnika
Sb1	Sbornik. International Conference on Phenomena in Ionized Gases. 13th. Berlin, 1977. Proceedings. Contributed Papers. Part 2. Leipzig, 1977.
Sb2	International Conference on Phenomena in Ionized Gases. 13th. Berlin, 1977. Proceedings. Contributed Papers. Part 1. Leipzig, 1977.
Sb3	Elementy i tekhnicheskiye sredstva upravleniya i regulirovaniya. Novocherkassk, 1977.
Sb4	Vsesoyuznaya konferentsiya po inzhenernym problemam termoyadernykh reaktorov, Leningrad, 28-30 June 1977. Doklady, v. 2, Leningrad, 1977.
Sb5	Opticheskaya holografiya i yeye primeneniyе. Leningrad, Nauka, 1977.
Sb6	Prostranstvennyye modulyatory sveta. Leningrad, Nauka, 1977.

Sb7 Radiotekhnika, no. 45, 1978.

Sb8 Voprosy atomnoy nauki i tekhniki. Seriya proyektirovaniye, no. 2, 1977.

Sb9 Mezhdunarodnyy simpozium po perekhodnomu izlucheniyu, chastitsam vysokikh energiy, Yerevan, 1977. Trudy. Yerevan, 1977.

Sb10 Opticheskiye i elektroopticheskiye metody i pribory analiza sostava veshchestva. Kiyev, 1977.

Sb11 Vychislitel'naya tekhnika. Vil'nyus, 1977.

Sb12 Vsesoyuznaya shkola po golografii. 9th. Tbilisi, 24-29 January 1977. Materialy. Leningrad, 1977.

Sb13 Tekhnicheskaya elektronika i elektrodinamika, no. 2, 1977.

Sb14 Kachestvo elektronno-luchevykh priborov. Kiyev, 1977.

Sb15 Eksperimental'nyye metody i apparatura dlya issledovaniy turbulentnosti. Novosibirsk, 1977.

Sb16 Vsesoyuznaya shkola-konferentsiya molodykh uchenykh po fizike plazmy "Sovremennyye metody nagreva i diagnostiki plazmy," Khar'kov, 1977. Tezisy dokladov. Khar'kov, 1977.

TKiT (TKTEA) Tekhnika kino i televideniya

Tr1 Moskovskiy fiziko-tehnicheskiy institut. Trudy, no. 12, 1977.

Tr2 Belorusskiy universitet. Vestnik, seriya 1, no. 1, 1978.

Tr3 Severo-Kavkazskiy nauchnyy tsentr vysshey shkoly. Izvestiya. Yestestvennyye nauki, no. 3, 1977.

Tr4 Tsentral'nyy aerogidrodinamicheskiy institut. Uchenyye zapiski, v. 8, no. 5, 1977.

Tr5 Moskovskiy fiziko-tehnicheskiy institut. Trudy. Seriya Obshchaya i molekulyarnaya fizika, no. 9, 1977.

Tr6 Leningradskiy elektrotehnicheskiy institut. Izvestiya, no. 216, 1977.

Tr7 Trudy uchebnykh institutov svyazi, no. 86, 1977.

Tr8 Tartusskiy universitet. Uchenyye zapiski, no. 443, 1977.

Tr9 Leningradskiy elektrotehnicheskiy institut. Izvestiya, no. 221, 1977.

Tr10 Moskovskiy energeticheskiy institut. Trudy, no. 334, 1977.

Tr11 VNII fiziko-tehnicheskikh i radiotekhnicheskikh izmereniy.
Trudy, no. 34/64, 1977.

Tr12 VNII vodosnabzheniya, kanalizatsii, gidrotehnicheskogo
sooruzheniya i inzhenernoy gidrogeologii. Trudy, no. 14,
1977.

Tr13 Moskovskoye vyssheye tekhnicheskoye uchilishche. Trudy,
no. 258, 1977.

Tr14 Leningradskiy elektrrotehnicheskiy institut. Izvestiya,
no. 215, 1977.

Tr15 Nauchnyye trudy vysshikh uchebnykh zavedeniy LitSSR.
Ul'trazvuk, no. 9, 1977.

Tr16 VNII fiziko-tehnicheskikh i radiotekhnicheskikh izmereniy.
Trudy, no. 35/65, 1977.

TVT (TVTYA) Teplofizika vysokikh temperatur

UFN (UFNAA) Uspekhi fizicheskikh nauk

UFZh (UFIZA) Ukrainskiy fizicheskiy zhurnal

VMU (VMUFA) Moskovskiy universitet. Vestnik. Fizika, astronomiya

ZhETF (ZEIFA) Zhurnal eksperimental'noy i teoreticheskoy fiziki

ZhETF P (ZFPRA) Pis'ma v Zhurnal eksperimental'noy i teoreticheskoy fiziki

ZhNiPFIK (ZNPFA) Zhurnal nauchnoy i prikladnoy fotografii i kinematografii

ZhPS (ZPSBA) Zhurnal prikladnoy spektroskopii

ZhTF (ZTEFA) Zhurnal tekhnicheskoy fiziki

ZhTF P (PZTFD) Pis'ma v Zhurnal tekhnicheskoy fiziki

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DUBOVETS V G	17	GALAGOVETS I V	62	GORBUNOV V I	70	
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DUMITRAS D C	22		64	GORDYEV A N	13	
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IGNAT'YEV L P	51	KALITSEVSKAYA YE N	19	KALISTRATOVA MA	51	KISILITSA PP	40	KOSTIN MN	16
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IGOSHIN F F	16	KALUGIN V V	16	KLEMENT'YEV VM	16	KLEMENT'YEV VM	21	KOSYNKIN V D	9
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IL'IN B N	29	KAMSHILIN AA	44	KLIMKIN VM	13, 14	KOTLYACHKOV MI	38	KOTLYACHKOV MI	38
IL'INOV MP	40	KANAYEV IF	61	KLIMOVSKIY II	14	KOTLYAR PYE	23	KOTLYAR PYE	23
IL'YASHENKO NI	40	KAPUTIN V F	47	KLYUCHNIKOV AS	41	KOTOV BA	57	KOTOV BA	57
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IOGAMSEN LV	35	KARAVATEV SM	4	KOBZEV GA	31	KOVALEV AA	30	KOVALEV AA	30
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ISAKOV AI	25	KARNAUKHOV VN	41	KOLODKOV A I	41	KOZENKOV VM	45	KOZENKOV VM	45
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IVANNIKOVA YE	69	KARTAZAYEV VA	14	KOLPAKOV AV	31	KOZLOV NA	5, 6	KOZLOV NA	5, 6
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IVANOV I	64	KASOTEV SG	28	KOMAROV KP	31	KOZLOV SF	46	KOZLOV SF	46
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IVANOV MA	7	KATYRIN VV	61	KOMPANETS IN	37, 38	KOZOROVITSKIY LL	7	KOZOROVITSKIY LL	7
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IVANOV RS	52	KAZARTAN HA	14	KONEV YUB	11	KRASNOPEROV LN	46	KRASNOPEROV LN	46
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KACHANOV YE I	40	KHRAHOV AG	57	KORKHOV YE L	20	KRINTSYN YU M	6	KRINTSYN YU M	6
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KUKHAREV N V	6	MAKSHANTSEV B I	46, 74	MIKHAILOV YU A	69
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KULISH N R	61	MALASHCHENKO V A	30	MIKHAYLOV V A	26
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KURBATOV L N	4	MALOV A N	22	MIKHEYEV L D	16
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	NEUCHINOV I V	28	PISHCHULINA I A	43	PYATNITSKIY L N	71
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TIKHONCHUK V T	69	UZHINOV B M	6	VORONIN V G	36	YEVTSHENKO G S
TIKHMONOV A F	37		6	VORON'KO YU K	1	YEVTYUKHIN N V
TIKHMENKO B A	21	V		VORONKOVA V V	63	YEVTYUNIN N V
TIKHOFEYEV V A	34			VORONKova G I	61, 63	YEZHKOVA A P
TIKHOFEYEV V P	24	VAITKUS YU	59	VOROPAY YE S	30	YUDANOV A A
TIKHOSECHKIN M I	1	VAKHIDOV SH A	75	VOROZHEYKINA L F	21	YUDINTSEV YE M
TIKHSHENKO A V	54	VAKULENKO O V	62	VOYENKO, I G	63	YUKOV YE A
TIKHSHENKO YE A	72	VALOV P M	21	VOYTOVICH A P	17, 57	YUZOPOVICHYUS A S
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TIUNOV YE A	58	VARGIN A N	10, 63		68	YUSHKO K B
TKACHENKO B K	15	VASIL YEV A A	38			Z
TKHADZE K G	51	VASIL YEV R P	19	WEISE V H	66	ZAGORSKIY YA I
TKHAKACHEV V A	16	VASIL YEV V D	58	WEISE V H	47	ZAKGEMY A L
TKHAKACHEV YU A	14	VASIL YEVA G L	71	WEISZ H	36	ZAKHARCHENKO S V
TKHAKACHEVA A YE	23	VASIL YEVA T K	69	WERESZCZYNSKI Z	69	ZAKHARCHENKO B P
TOMASHCHIK A K	47	VAVILOV V S	4	WEIDERHOLD G	9, 51	ZAKHARENKO YU A
TOBIN V I	6	VCHERASHNIY R I	57	WOJTCZAK J	63	ZAKHARENKO YU A
TORPACHEV P A	30	VEDENEYEV A A	15	WREMBEL H Z	36	ZAKHAROV N A
TRET'YAKOV D N	4	VEIT M	55			ZAKHAROV V YU
TROFIHOV A N	14	VEKLENKO B A	32			ZALESKIY V YU
TROITSKIY I N	62	VELIKOTSKIY V L	72			ZANADVOROV P N
TROITSKIY YU V	48	VERETENNIKOV V A	72			ZAPESOCHNYY I P
TROSHIN YE V	21	VEREYKIN V A	44	YAKOVLENKO M N	59	ZAROSLOV D YU
TRUSHIN S A	8, 10	VERGUNOV V B	48	YAKOVLEV V I	63	ZASLAVSKAYA V R
TSARFIN V YA	51	VESELA Z	7	YANKOVSKIY A A	57	ZASLAVSKIY G M
TSARZAYL P	69	VETCHANKIN S I	32	YANUSHEVSKIY N I	2	ZASTROGIN YU F
TSIVADZE A YU	56	VIKICHEVIC D	70	YANUSHKEVICH V A	64	ZATSEPIN V G
TSUKERMAN V G	41, 61	VILESOV F I	17	YARMUKHAMEDOV N G	62	ZAV'YALOV V V
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					41	ZAYNULIN R I

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MINIMUM RESOLUTION TEST CHART
NATIONAL BUREAU OF STANDARDS (NBSA)

44 58
59 74
ZAYTSEV V G
ZBOROVSKIY V A
ZEL'CHEVKO V YA
ZEL'DOVICH B YA
ZEL'DOVICH B YA
ZEL'ENCHUK A R
ZEMSKOV YE M
ZEMTSOV YU K
ZHARZIKHOV YE V
ZHARDV V P
ZHARDVICH S N
30

ZBOROVSKIY V A 58
ZEL'CHENKO V YA 74
ZEL'DOVICH B YA 26
ZEL'DOVICH B YA 27
ZELENCHUK A R 64
ZEMSKOV YE N 25
ZENTSOV YU K 14
ZHARIKHOV YE V 1
ZHAROV V P 52
ZHIDANOVICH S N 30
ZHEKOV V I 1
ZHELUD'KO I A 11
ZHEYENBAYEV ZH ZH 67
ZHILKIN A M 58
ZHIL'TSOV V P 75
ZHINKRUP A I 20
ZHINZHIKOV G M 16
ZHOLNEREVICH I I 31
ZHOTIKOV V G 59
ZHUKOV V V 14
ZHULANOV YU V 58
ZHULIN V I 18
ZHURAVLEV G I 50
ZIL'BERBERG V V 24
ZIMAKOV V P 9
ZINOV'YEV YU S 45
ZITNIK J 58
ZLENKO A A 58
ZLOBIN A V 48
ZOLOTAREV V P 53
ZOLOTOV YE M 34
ZOREV N N 73
ZUBAREV V YE 52
ZUBOV B V 63
ZUBOV V A 44
ZVONAREVA T K 45